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| 10/782,659 | 02/18/2004 | Marquis D. Doyle | 030272 | 5215 |

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| QUALCOMM INCORPORATED | | |
| 5775 MOREHOUSE DR. | | |
| SAN DIEGO, CA 92121 | | |

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| EXAMINER | |
| BEHNCKE, CHRISTINE M | |

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| ART UNIT | PAPER NUMBER |
| 3661 | |

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| NOTIFICATION DATE | DELIVERY MODE |
| 09/26/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/782,659

Applicant(s)

DOYLE ET AL.

Examiner

Christine M. Behncke

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7-12, 16-21 and 25-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-12, 16-21 and 25-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the Amendment and Remarks filed 6 July 2007, in which claims 1-3, 7-12, 16-21, and 25-29 were presented for examination.

Response to Arguments

Applicant's arguments filed 6 July 2007 have been fully considered but they are not persuasive. Applicant contends that the Examiner did not meet the burden required for an obvious type rejection, specifically the rejection did not make explicit reasons that would have prompted a person of ordinary skill in the art at the time of the invention to combine the prior art elements. The Examiner stated that it would have been well known in the art to average acquired samples and use the averaged result as a reference parameter. Averaging is well known in mathematics to remove small variations between a set of numbers, and in signal processing was a well-known means of filtering signals. In response to Applicant's challenge of the obviousness of averaging acquired signals, the Examiner has further applied as support that this means was well known in the art with the teachings of the reference Wisnia. Wisnia is applied to suggest that it was well known to one of ordinary skill in the art to average detected signals and specifically when acquiring battery parameters.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 7-12, 16-21, and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zur et al. in view of Wisnia et al., US 6,561,151, in further view of McLeod et al., US 2006/0052918.

(Claims 1, 7, 8, 10, 16, 17, 19, 25, 26, 28, and 29) Zur et al. discloses a method, apparatus, and computer-readable media comprising instructions for determining a potential failure of a battery in a vehicle, the apparatus comprising: logic to receive a battery signal during a vehicle starting event (column 6, lines 57-62); detection logic that operates to determine one or more battery characteristics from the battery signal (column 14, lines 40-46), and wherein the detection logic further comprises logic to compare the battery characteristics to reference parameters derived from one or more prior starting events to determine whether the battery poses a potential risk of failure (column 14, lines 47-63, column 18, line 52-column 19, line 25, and column 38, lines 22-41); and logic to activate one or more vehicle alert indicators if a selected battery characteristic exceeds a selected reference parameter (column 17, lines 31-55). Zur et al. comprises logic to compare the battery characteristics to reference parameters to determine a potential component failure. Zur et al. does not disclose that the reference parameters are determined by averaging prior battery characteristics from one or more prior starting events. However, it would have been obvious to one of ordinary skill at the time of the invention to use a reference parameter that reflects an average of the battery characteristics from prior starting events as these prior starting events would reflect a battery characteristic that is considered to be a normal value of the fully functional battery, the averaging would remove aberrations and noise. It would be

obvious and to the choice of one of ordinary skill to use a set value to indicate the acceptable working condition of the battery or an averaged value that also indicates acceptable working condition of the battery. This use of averaging acquired samples is further demonstrated by Wisnia et al., Wisnia teaches that voltage samples are taken using an A/D converter and stored, Wisnia teaches that the samples can be averaged and filtered using appropriate means (column 3, lines 53-60). The teaching of Wisnia suggests that the averaging of the samples with filtering was a well-known means of removing noise from the samples.

Zur et al. discloses using wireless means to transmit the alarm to an indicator to notify the operator of a potential failure of the battery. Zur et al. does not disclose transmitting the alarm or the battery characteristics to a remote station. However, McLeod et al. teaches a control and diagnostic system wherein the battery characteristics of a plurality of vehicles is monitored and transmitted to a remote station ([0045], [0038]). Further McLeod et al. teaches transmitting a battery alarm alert indicator to a remote station if a battery characteristic exceeds a selected reference parameter ([0045]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system of Zur et al. with the teachings of McLeod et al. because as McLeod et al. suggests, it is critical for proper maintenance for the battery characteristics, recharge scheduling, etc. to monitor the conditions of the vehicle batteries, and for a use with a fleet of vehicles individual manual diagnostics is too time consuming. McLeod suggests it would have been obvious to one of ordinary skill in the art to increase the efficiency and cost-effectiveness of monitoring a fleet of

vehicles, to transmit the parameters and/or alarms to a remote station where scheduling of maintenance can be centralized. Neither reference explicitly discloses downloading reference parameters from a remote station to the diagnostic device. However, it would have been obvious to one of ordinary skill in view of the teachings of McLeod et al. including a bi-directional communication between a remote station and the on-board vehicle diagnostic device to download reference parameters to the vehicle rather than manually entering the reference parameters. This was well known in the art to allow for updates in computer software.

(Claims 2, 11, and 20) Zur et al. further discloses logic to create a battery waveform from the battery signal and evaluate the battery waveform to determine the battery characteristics (column 13, lines 46-65).

(Claims 3, 12, and 21) Zur et al. further discloses wherein the battery characteristics comprise one or more of a battery dip voltage, engine speed indicator, and engine starting time indicator (column 14, lines 40-46).

(Claims 6, 15, and 24) Zur et al. further discloses logic to select the reference parameters from a table of parameters based on one or more selection criteria, wherein the selection criteria comprise engine temperature, ambient temperature, battery type, and vehicle type (column 14, line 57-column 15, line 20).

(Claims 9, 18, and 27) Zur et al. further discloses logic to compare the battery characteristics to the stored reference parameters to determine a potential vehicle component failure (column 14, lines 40-46, and column 1, line 64-column 2, line 28).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

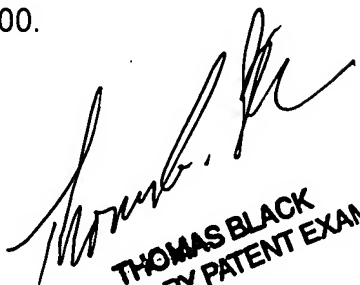
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3661

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB



THOMAS BLACK
SUPERVISORY PATENT EXAMINER